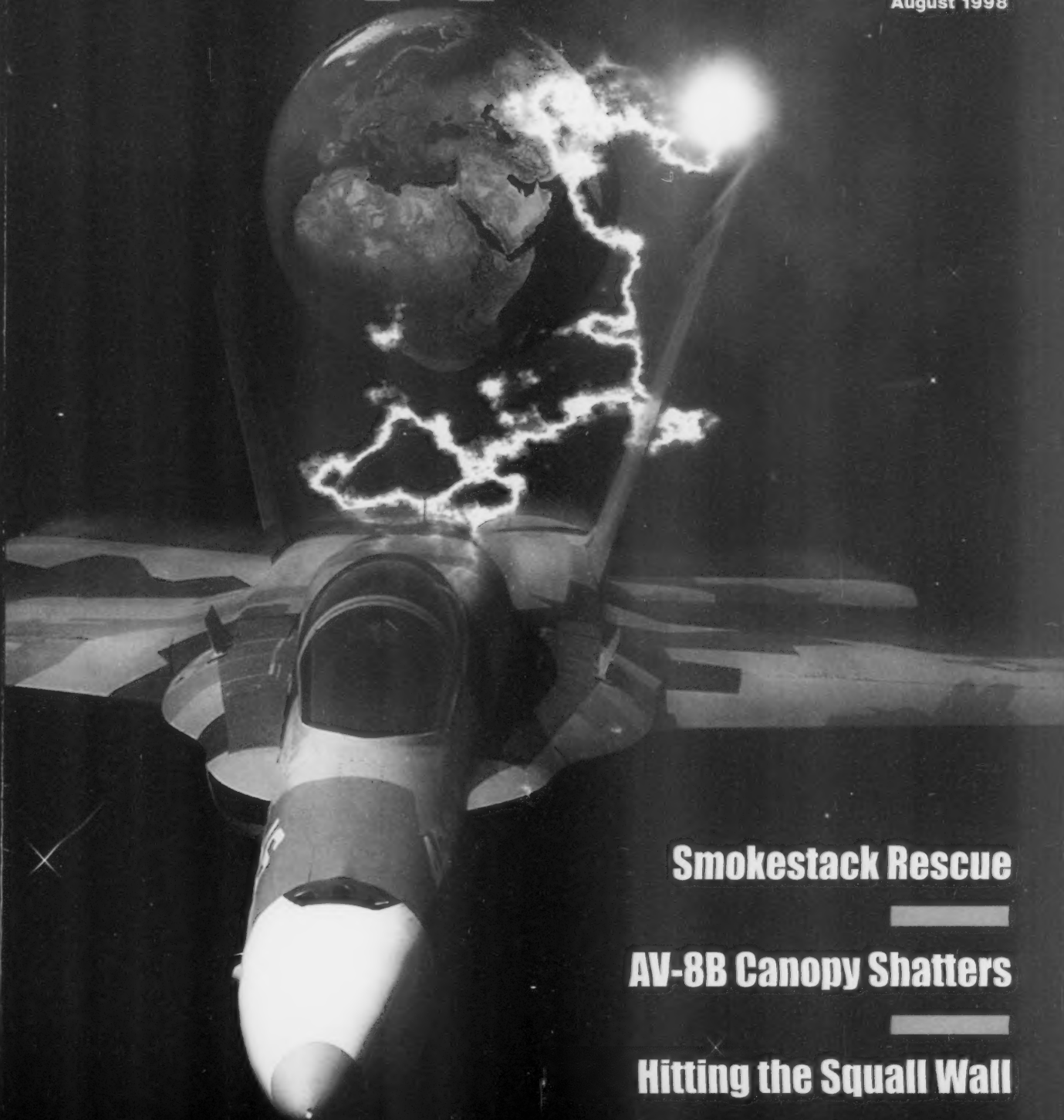


THE NAVAL SAFETY CENTER'S AVIATION MAGAZINE

# approach

August 1998



**Smokestack Rescue**

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**AV-8B Canopy Shatters**

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**Hitting the Squall Wall**

# approach contents

August 1998  
Volume 43, Number 8

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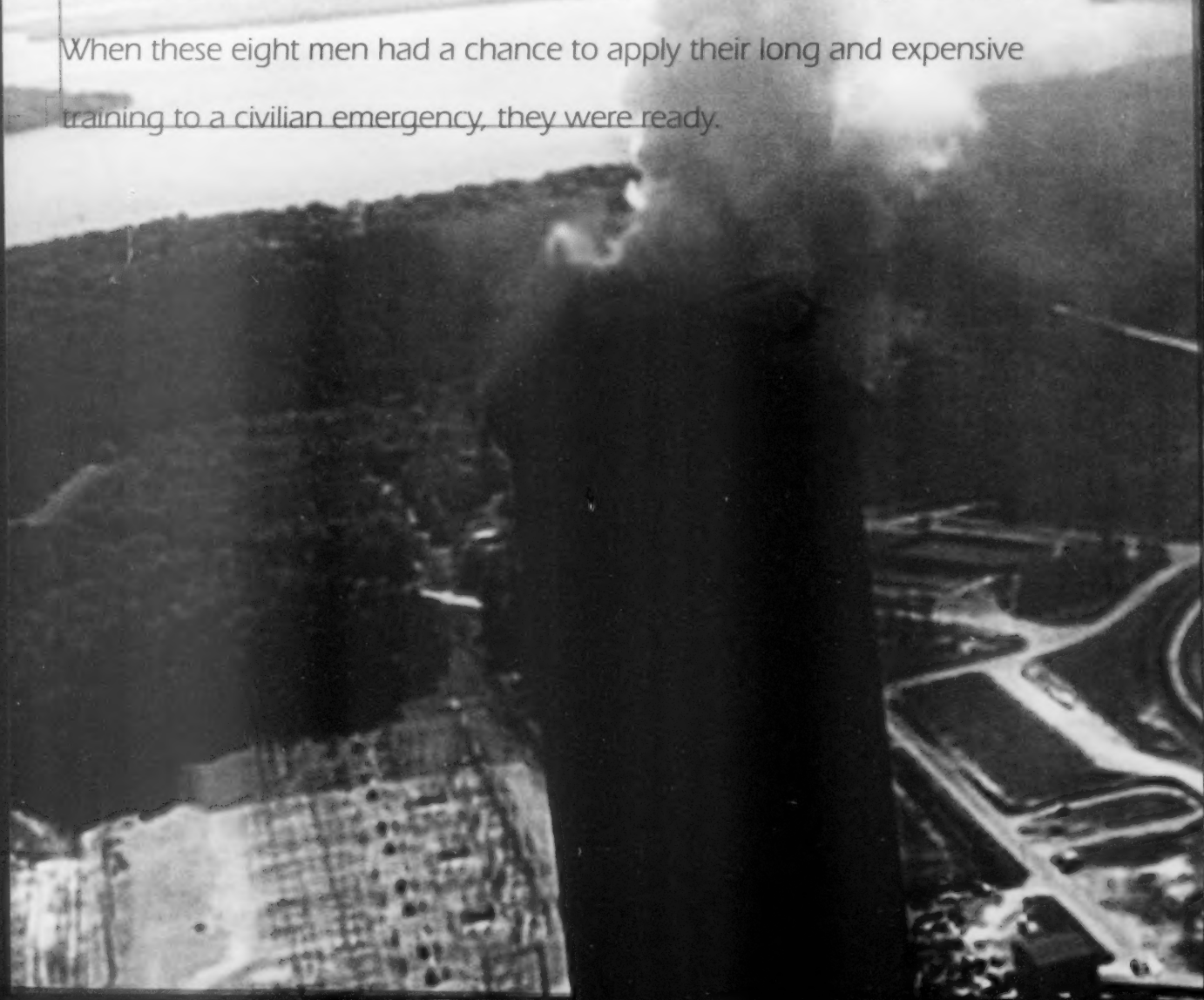
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# Rescue From a Smokestack

**If your base is near** a large city, you expect to be involved in civilian activities. However, the members of these two HSL-40 crews probably never considered what hazardous variations of this involvement might develop. When these eight men had a chance to apply their long and expensive training to a civilian emergency, they were ready.





# Burning

**Lt. Drew Krasny, HAC, Airwolf 407**

**B**ESIDES THEIR REGULAR TRAINING duties, our FRS-squadron instructors serve as backup SAR crews for the Coast Guard in the greater Jacksonville area. The usual SAR call is to help recreational boaters in distress, and many of those calls turn out to be hoaxes. On March 25, 1998, I had the SAR duty when a call came in; it wasn't a hoax, and there were no boaters involved.

At 1200, our duty office reported an out-of-control fire at a smokestack at the Seminole Power Plant in Palatka. Tires and wood had ignited at about the 400-foot level, and the blaze had forced six maintenance workers to the top of the stack.

We launched at 1245 while the emergency crews already at the scene tried to put out the fire. We got bits and pieces of information as we flew to the site. The initial word was that our crew would be the last resort if the fire could not be extinguished. Ten minutes after we launched, the "last resort" became the only option.

The plant was 30 miles south of Mayport, a 15-minute flight. As we got our on-scene brief from the ground crews, I looked up at the stack and started asking questions. Six hundred and seventy feet above the ground somehow did not coincide with the Seahawk's normal 10-foot hover altitude.

I went through the charts in NATOPS, and the numbers indicated that we needed about 5,000 more shaft horsepower to hover safely at 670 feet. Since we could not shoehorn an MH-53 engine into our helo, I decided that a cautious approach would indicate what our power-available-power-required situation really was.

The winds were light but steady from 120. As we approached, we saw that the tower was 100 feet across with two large exhaust holes pouring forth thick, black smoke. The winds at the time were ideal.

After we made our approach and established the aircraft in a hover, conditions let us hover at 80 percent (normal power required for a 10-foot hover is 78 percent). This power margin increased the crew's comfort factor exponentially.

AW2 Heath Rominger quickly lowered AW1 Andy Zawolik onto the stack to prepare the six workers for pickup. Within five minutes, we were transitioning to forward flight with four grateful passengers. Unfortunately, we could not take everyone. Once we landed on the deck, the workers quickly disembarked, and we took off to finish the job.

I was sure we would get the other two civilians and our aircrewman in no time. By this time, Airwolf 403, a second HSL-40 aircraft, was on scene and circling to provide backup.

As we moved into position to retrieve the two workers and our crewman, we were sure the second pass would be as successful as the first. But almost as soon as we were over the stack, the winds changed and strengthened, pushing hot air and billowing smoke directly into our aircraft. The rotor vortices began drawing smoke and heat down through the rotor disk, and my window scupper created a vacuum, pulling smoke into the open cabin door.

As I tried to maintain my visual cues for a stable hover, we went IFR in a cloud of thick, hot smoke. Although hovering was extremely difficult, I got occasional breaks in the weather, which let me see a railing now and then. AW2 Rominger also provided critical position calls that helped me maintain a stable hover.

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As we quickly pulled the last two civilians through the open hatch, Rominger lowered the hoist to retrieve his compatriot. At this point, everything went into slow motion. The hot air and thick smoke didn't contribute to the smooth operation of a turboshaft engine. As my No. 2 engine was winding down, my crewman yelled, "Compressor stall!" I saw a lot of red lights and felt the aircraft lose altitude. The crewman immediately cut the hoist cable, leaving the second crewman on the tower.

I froze the collective and slid the aircraft to the left to clear the railings of the tower. When I was sure my landing gear cleared the tower, I nosed the helo over about 35 degrees for a single-engine recovery. As I pushed the nose over to gain airspeed, I checked the gauges. The No. 1 engine had about 144 percent torque, and Nr was a perilously low 85 percent.

To a helicopter pilot, turns (Nr) are life. Time seemed to drag as we plunged 200 feet and increased our speed from 0 knots to 100

knots and 85 percent Nr to 100 percent Nr. We were flying again, straight and level at 450 feet.

Everyone's first thought was rescuing our crewman.

"Call Four Oh Three to get him," I ordered.

We didn't know that within seconds of our forced departure, 403 had replaced us over the tower and picked up our stranded crewman. We made a text-book single-engine approach and landing to a nearby field with the last two civilians, who probably never knew how close they came to dying. Three of our crewmen were hospitalized for smoke inhalation, including me.

What could have been a disaster was one of the most flawless missions that I had ever flown. Our SAR brief that morning had covered everything, from the roles each of us would play in a SAR to what our actions would be in the case of an emergency.

Our CO decided to launch the second aircraft—just in case—and the second crewman is alive today because of that decision.

#### AW2 Heath Rominger, Airwolf 407

**I**N ALL MY YEARS AS A RESCUE CREWMAN, I had never been called to launch as the backup SAR at Home Guard. Then one day, I was in the NATOPS office working on a NATOPS check I completed the day before with one of the FRS students. Later, as we discussed lunch at the 19th Hole, the SDO entered and said to muster the crew because we had work to do.

I grabbed my flight gear and made a couple of phone calls to gather the crew in the duty office to brief. The situation was not the kind of SAR you would think the Navy would do.

After we had rescued four of the six trapped workers and returned to retrieve AW1 Zawolik, we found the smoke had intensified and the wind had changed course. We picked up the remaining two workers, but when I lowered the strop to pick up AW1 Zawolik, the black smoke got worse. I lost him in the smoke as he grabbed for the strop. A few seconds went by, and I still could not

The crewman immediately  
cut the hoist cable, leaving the  
second crewman on the tower.

AW2 Eric Kazmerchak, Lt. Dana Gordon, Lt. Bill Carter, Lt. Drew Krasny, Lt. Mark Murray, AW1 Andy Zawolik and AW2 Heath Rominger





see him. Then I heard the No. 2 engine wind down as I yelled, "Compressor stall!" We lost about 10 feet in the hover and the pilot did his emergency procedures to a "T."

I had to make a split-second decision as to what to do with AW1 Zawolik, since I did not know if he had hooked up to the strop. As we rolled off the side of the smoke stack, I sheared the rescue hoist for fear of pulling him off the towering smoke stack or

pulling off the guard rails that surrounded the top of the smoke stack with the rescue hook and possibly pulling the rescue hoist off the aircraft.

Although the pilot established single-engine airspeed and landed in an unprepared parking lot without a mishap, we still had a problem: AW1 Zawolik was still at the top of the stack. But a second helicopter, Airwolf 403, started moving in...

# Airwolf 403 had launched as a backup for Airwolf 407.

*Lt. Billy Carter, HAC, Airwolf 403*

WE HEADED TOWARD THE SITE at max blast and called 407 to ask what they had. They said the situation had deteriorated, and they were hoisting four civilians on the first run, then were going back for the last two. I looked at my copilot, Lt. Dana Gordon. We both realized the urgency. We set the radios in comm-relay so that the squadron back at Mayport could listen.

We were about three minutes out, with the tower in sight. We could see 407 departing. We asked if they wanted us to pick up the last two survivors. They replied they would continue since they were familiar with the spot and also that their aircrewman was still with the last two workers. We started circling the stack as 407 arrived to begin hoisting.

After the first of the remaining survivors was hoisted, we noticed that the wind had shifted. The last civilian and the crewman were crouched on the only platform from which we could rescue them. It was about 15 feet by 15 feet and was next to the opening of the stack. As the wind changed, the

smoke, fumes, and extreme heat also shifted directly over them. Without warning, smoke enveloped 407. In seconds, the smoke began changing from black to white and was much thicker. We told 407 of the smoke's color change and asked how they were doing. They responded that they were fine and that the last civilian was coming up.

We circled around and took a photograph of the aircraft hovering at 670 feet MSL in the smoke.

"Man, that looks terrible," I said over the ICS, "I'm glad I'm not in that."

As we came abeam the tower, I saw 407 sink! In 30 seconds, it was in trouble. The nose dropped, and I saw the smoke from the No. 2 engine. They said that an engine had failed and that they were making an emergency departure. Lt. Gordon advised there was a field at their 3 o'clock and told 407 to come left. I was looking at the stack as my copilot was calling the field position and was shocked to see one white helmet in the black smoke.

CONTINUED ON PG. 28.



# Gear Down at 470 Knots

by Lt. Tim Hibbetts

IT WAS A BEAUTIFUL APRIL DAY in the Northwest: not a cloud in the sky, light winds, and moderate temperature. As my introduction to the A-6 and the local area, the FRP syllabus required that I observe the first hop from the right seat, though I'm sure I saw more than the syllabus writers intended.

My instructor had been in the FRS for his allotted time and was getting out of the Navy in a few months. He'd been concentrating on other things and hadn't flown much in the preceding months. Our preflight was cursory and manning up was awkward, but we launched and headed over the mountains. Although we were only slated to do some acro and a stall series, we had the MOA from 500 feet AGL to FL230 and didn't see why we shouldn't exercise the whole thing.

We checked into the area and descended for a demonstration of the Intruder's low-altitude flight characteristics. We never got below 800 feet, and I was a little disappointed because after nine months out of the tactical jet environment, I wanted to rage, even with someone else at the stick. We spent about 10



There was the dull jolt as the gear doors opened and the old, beefy gear struggled into the slipstream.

or 15 minutes down there, zorching around, then climbed to begin the high work. We pulled G's and moved the horizon around. We finished with time and gas to spare and decided that a little more tactical instruction would finish off the MOA work nicely. Down we went again. We still didn't get really low, but we were doing about 470 knots and pulling some good G's, though no more than we had before.

Something on the pilot's side of the cockpit caught my eye, and as I looked, I saw my instructor's nav bag fall. It had been wedged between the glare shield and the left forward-quarter panel, and when it fell, it took the gear handle down with it. There was the dull jolt as the gear doors opened



and the old, beefy gear struggled into the slipstream. The instructor felt the plane jerking about, but didn't know the reason.

He leveled the wings and climbed, slowing down in the process.

My eyes were glued to the gear indicators. The left main came down in good order, but the nose and right main were still showing unsafe. I knew that single main-gear landings were much more dangerous than those without a nosegear, and my attention was on the right main as I scrambled to pull my pocket checklist from my G-suit. I was still trying to stare the right main into a safe position when I noticed my instructor scanning the instruments. I told him what I had seen, and

he looked down at the gear handle, the indicator, and his nav bag.

He picked up the bag and moved to restow it in its former un-resting place, thought better of it, and put it behind the left console, in the nav-bag-thermos-holder.

As we pushed over to level off at 15,000 feet and 220 knots, we felt a thump, and the gear indicator showed both mains safe. Thank you, Grumman Ironworks! He got on the radios and requested immediate clearance

CONTINUED ON PG. 29.

# Attacked by a

by LCdr. Randy Klatt

**F**LYING THE T-44A WAS ALWAYS GREAT, especially on a cross-country. I had spent the weekend in Denver and was climbing over the Rockies heading toward El Paso on my return to Corpus Christi. My student was doing well, and the weather was beautiful. We had taken a space-A passenger with us—a retired gentleman who was currently snoozing in one of the passenger seats. All was going according to plan.

Then we heard a loud “Bang!” from the rear of the aircraft. The student and I quickly determined there were no serious problems with the engine, cabin pressure, or instruments. I looked over my shoulder and saw that the passenger, although startled, seemed to be fine. Then I saw something else moving in the aft cabin, and I heard a hissing noise. The source of the problem was now obvious. The seven-man raft behind the passenger seats on the starboard side of the aircraft had begun inflating! It was rapidly filling the space in front of the main cabin door.

Now, here’s where my aviation experience and the situation at hand seemed to diverge. I could see that the raft case was still partly intact, but it was tearing as the raft kept inflating for a few more seconds. The passenger had scurried to the other side of the cabin away from the raft and was looking at me like I should know what to do. Fortunately, the raft stopped inflating at about 25 percent, filling the entire aft cabin behind the seats. We could still just squeeze by it.

Well, you say, just take your survival knife and deflate it, right? Good idea, but for those of you who have flown the T-44A, you know that we do not wear an SV-2 or carry any survival gear while we fly. For now, we had to settle for the passenger’s pocketknife. He was standing by, ready to thwart the orange menace should it become necessary.

We continued to El Paso without the raft making a move. The touchdown was smooth, and we carefully taxied to the FBO for fueling and disposal of the raft. We shut down, and I climbed into the back. I told the

passenger to stay in his seat and that I would handle things. I carefully stepped around the raft, but soon realized that I would have to move it to get to the main cabin door. I was afraid that as soon as it was moved, it would continue inflating, which could put us all in a really tight position.

OK, time for some leadership. I prepared to quickly move the raft and then leap to open the cabin door. Hopefully, I wanted to get the raft started out the door, and if it started to inflate fully, it would do so outside and not crush me against the bulkhead.

I also had an escape route. If I didn’t get the door open in time, I’d leap to the aft pressure bulkhead and sit on the toilet. At least I wouldn’t be suffocated by a piece of survival equipment designed to save my life.

Time to make my move. I gingerly edged the raft away from the door and, sure enough, the thing started inflating! With cat-like quickness, I swung the cabin door handle, pushed open the door, and started pushing the raft out as fast as I could. It was touch and go for a while, but it seemed to be working!

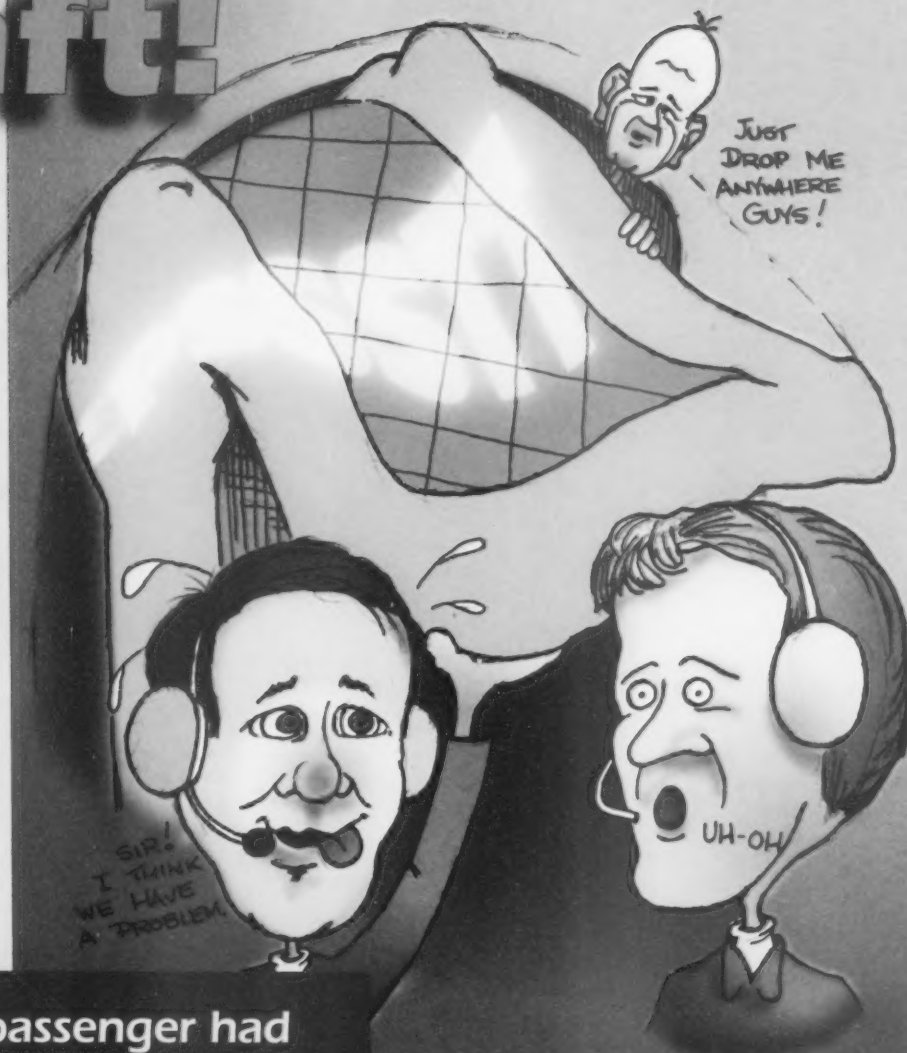
Within a few seconds, the survival raft had been successfully launched onto the civil aviation ramp at El Paso International Airport.

As luck would have it, it had started to rain in El Paso—a real gully washer (they have those in Texas). As I triumphantly stood atop the boarding ladder, looking at the seven-man raft on the ramp, watching the rain pour down, a man in a pickup truck slowly drove by. He stopped right in front of me. He rolled down the window of his truck and looked for a few seconds at the scene before him. Then, in a slow drawl that could only come from a Texan, he says, “Ain’t rainin’ that hard.” He rolled up the window and drove on down the ramp.

The student and I deflated the raft and folded it up as best we could while trying to drain the rainwater. Then we shoved it back into the airplane. The space-A gent had long since abandoned ship. I didn’t blame him, I guess.




# Raft!



Cartoon by J.Cdr. Mark Exelmon  
Color rendering by Leigha Miller

The passenger had scurried to the other side of the cabin away from the raft and was looking at me like I should know what to do.

We fueled and continued on to Corpus Christi, all the while rehearsing our story so that maintenance would believe that we didn't somehow inflate the raft while fooling around with it. I never did find out why it inflated, and I surely never again flew into El Paso during a rainstorm. 

LCdr. Klatt flies with VP-26.



by Capt. Shawn O'Brien

IT WAS SUPPOSED TO BE A TWO-LEG flight from Yuma to Gulfport, with a stopover in Midland for gas and chow. We were taking the jets to Gulfport for an exercise. I would be leading the flight.

As we began our start-up procedures, we requested an unrestricted climb to FL370 from clearance delivery, who said that they would coordinate. After takeoff, departure and center cleared us for an immediate climb and turn on course.

The weather for the entire route to Midland was beautiful. We descended for the break and briefed landing (an RVL, at 60 knots).

We taxied the jets up to the FBO and shut down, then went inside to eat kielbasa sandwiches and potato chips. Our operations had arranged for the sandwiches, really going out of their way to make sure we were well-nourished between flights.

We hopped into our aircraft for our next leg. I put our clearance on and asked for another unrestricted climb to FL370. Airborne we called departure and got clearance to FL370 and an immediate left turn direct Gulfport. We leveled off at FL370 with my wingman in the fighter-wing position.

Everything was going as briefed for an instrument cross-

country until we approached Waco. The weather was CAVU and we could easily see Waco Regional and TSTC Waco Airfield.

I said to my wingman, "There's Waco," and he responded, "Been there, done that."

I gave him a quick, "Haven't, don't want to."

Within seconds... boom! It felt like an explosion, and there was a lot of unusual vibration. I had no idea what had happened. Then I realized my canopy was gone and that I was flying a convertible at 37,000 feet! The noise was deafening. An earlier check of the temperature at FL370 indicated -56 degrees Celsius, and I had been flying a true airspeed of 452 knots.

Almost immediately after the explosion, I reduced the throttle to idle and started a left descending turn to

split Waco Regional and TSTC. I punched 7700 into the IFF while I broadcast, "Blacksheep Eleven, I am declaring an emergency!" The noise was incredible. As I tried talking to center, I doubted anyone could understand or hear my calls. I slowed the aircraft as much as I could, while at the same time trying to descend as quickly as possible.

I looked over my right shoulder to see that my wingman was following me as briefed. Later, I found out he was talking and coordinating with center about my emergency. My jet looked normal because almost all of my canopy was gone, so he could not see what was wrong. He could tell I was in control and had not passed out because I was turning, descending, and slowing down. Not only had I selected idle, but also hoverstop, where we put the



# gtop Harrier

## 00 Feet

John W. Williams

nozzles—all of our thrust—straight down in the hovering position, which increases our rate of descent and acts like a speed brake.

The Harrier's intakes are just aft of the cockpit, and my main concern became loss of the engine. Pieces of the canopy plexiglas were still shaking loose and shooting past me with incredible speed. To reduce the possibility of getting struck by one of these shards or of them getting caught in the jet stream, I lowered my ejection seat all the way down and was flying with my body as far forward in the seat as possible. I was so far forward I checked my koch fittings to make sure I was still strapped into the ejection seat.

As I approached 12,000 feet, I was splitting the two airfields. At the time, I did not know the name of either airfield and didn't care

because I was just picking the best one to land on.


TSTC had longer runways and a bunch of C-141s, P-3s, and even a 747, so that was the field of choice. I made another call on center frequency to let them know that I was going to land at the field on my right, but I doubted they could understand me. I found out from my wingman that center thought I was going to land at Waco Regional so they rolled the crash crew at Waco Regional instead of TSTC.

I flew over TSTC at 10,000 feet, clearing the landing pattern and setting up on a downwind entry for the north-south runway. I thought that it wasn't too bad flying an open-air cockpit jet. I hadn't done it since the T-34 smoke-in-the-cockpit drill.

As I entered downwind, I set the

power at 80-85 percent and set up for a VNSL (variable-nozzle slow landing), setting the power and using the nozzles to control airspeed and AOA. As I approached the groove, I could see there was a C-141 about to be towed across the crossing runway, and I hoped the tug driver would stop before I landed. Harrier pilots rarely use half of the runway even for a roll-on landing.

After touchdown on the rollout, my wingman flew over me, and as I slowed down, I told him what happened and requested he land. I quickly taxied in and shut down next to a DC-3 that had flown in on a two-engine-out profile. I just sat there a moment or two thinking about what had happened. Then, I carefully unstrapped and got out.

I quickly jumped into the intake to see if the engine had been FOD-ed. I was amazed to see no damage to the engine. In the past, I have seen what usually happens to the Harrier's engine when the canopy shatters. It's not a pretty sight, plus we have the most expensive engine in the inventory. 

Capt. O'Brien flew with VMA-214.

*The EI reported the canopy failed because of a crack stemming from a bolt hole on the left side of the butt plate of the acrylic.—Ed.*

# Bugs in the

by LCdr. John P. Long

IT HAD ALREADY BEEN A LONG NIGHT. Flying a P-3 from NAS Patuxent River, we had to provide support to another command conducting a test on the local electronic warfare range. We had held a final brief at 2100 with our playmates for the event, just before they launched for Chesapeake Bay. We arrived at our aircraft at 2200 for preflight. Takeoff was planned for 0100 but would be determined by preparations on the range.

Once we finished preflighting, we did our best to relax while waiting for the "go" call. The weather was clear with only a few small clouds, but a chop on the bay slowed the range boats as they moved toward station. There were also the typical delays in setting up and checking the equipment.

Finally, at about 0245, we got the call that all equipment was positioned for the test. Taking the runway, I called for normal rated power. A power and airspeed check at 80 knots produced normal indications. We rotated at 115 knots and began what appeared to be a normal climb into the starry sky.

The weather was VMC, and I was scanning outside watching the field fall away beneath us when the plane commander in the right seat called, "Watch your airspeed!" It was at 170 and decreasing. A quick scan of the other instruments provided conflicting information. The altimeter showed 300 feet, and the VSI showed about a 100-fpm descent, but all four engines were producing 3,500 shaft horsepower (SHP). A look at the FDI showed 7 degrees nose up, a normal climbout attitude. The altimeter and fading lights on the ground confirmed we were climbing. The pilot and copilot instruments were not showing normal readings and did not agree with each other.

Using the radar altimeter, we leveled off at 2,000 feet AGL and set 1,000 SHP, sufficient to keep the aircraft above stall in the clean configuration, but slow enough to let us extend the flaps if required. It didn't take long to determine that our test was scrubbed for the evening, so we called the tower and requested a 2,000-foot delta pattern while we tried to troubleshoot our problem.



The altimeter showed 300 feet,  
and the VSI showed about a 100-fpm descent, but all



# Pitots

It was painfully obvious we had experienced a dual pitot-static system malfunction. That sort of thing is not supposed to happen in a redundant system. Our initial, somewhat embarrassing assessment of the situation was that perhaps the static plugs had been left in on preflight, or that the static ports were still covered with tape from a recent wash. Despite having "solved" the mystery, we pulled out NATOPS and completed the procedures for "Loss of All Airspeed Indication."

After reviewing NATOPS, we called our base for ideas and also told our playmates not to wait. The cockpit discussion now centered on landing. It was 0400. We would have to hold at least 1 1/2 hours until sunrise and longer if we waited for a wingman as discussed in NATOPS. Since we don't normally practice formation flying, and we were still feeling that adrenaline rush, we decided to land as soon as possible.

While we orbited, the indicated airspeed, which had bottomed out at about 140 knots, began increasing.

The barometric altimeters also began climbing toward our actual altitude. Maybe our initial assessment of the problem wasn't correct after all, which renewed our faith in our preflight procedures.

Declaring an emergency with tower, we took another lap in the delta pattern to brief the approach and get set up. We selected maneuver-flaps then approach-flaps. As we selected flaps for approach, we increased horsepower to 1,200. The gouge power setting was 160 knots, approach flaps at our gross weight. We put the gear down abeam the intended point of landing and reduced power to

four engines were producing 3,500 shaft horsepower.



700 SHP, another VFR-pattern gouge figure, and completed the landing checklist.

We flew a descending, decelerating turn to intercept final based on outside scan, radar altimeter and AOA-indexer indications. We had decided to make an approach-flap landing to avoid the attitude transition associated with selecting land-flaps and also to prevent the possibility of a flap overspeed.

We reduced power again over the approach lights to cross the threshold with about 500 SHP. Crosschecks of the AOA indexers ensured we maintained a sufficient margin above stall while checking rate-of-descent cues to the runway below us.


The duty runway was 06, 11,800 feet long. We touched down in the first 2,000 feet. Retarding the power levers to flight idle, we rolled out for another 2,000 feet before reversing to ensure we were below the 135-knot NATOPS limit.

Once we were parked and chocked, we hurried to see what static ports might be covered. To our delight, everything appeared normal. The aircraft was downed and maintenance began a more in-depth check.

Subsequent inspection of the static system revealed that debris, including a wasp's nest, had found its way into both systems. Our initial airspeed check at 80 knots was good because the static pressure was stable. Once we began climbing, the plugged static systems lagged behind the actual pressure change, causing our erroneous indications. The airspeed and altitude correction we noted in the delta pattern occurred as the

static system caught up with the actual outside-air pressure. The functional checkflight that followed never made it off the ground. The 80-knot airspeed check revealed further maintenance action was required to completely clean the copilot's static system.

We learned two important lessons. First, aircraft are supplied with plugs and covers for a reason; they need to be used. The static plugs on our aircraft had not been installed for an extended period of time. The P-3's static ports may be in an awkward location, but the plugs and covers protect vital aircraft systems and, ultimately, aircrew.

Second, the power and configuration combinations taught during FRS training really work. Furthermore, the AOA indexers can provide considerable information and should be included in the pilot's scan, even during a normal approach and landing. Knowing how the aircraft would react to changes in these parameters made that morning's approach and landing uneventful. 

LCdr. Long has flown with VX-1 and VP-8. He is currently assigned to STRATCOM as Chief of the Bomber-Strike Team.

*This story is a testament to ACT and situational awareness. No matter what aircraft you fly, to have half your primary flight instruments indicating a full-power descent at night while the other half indicates everything is fine is the perfect setup for overload. Although NATOPS addresses using AOA or the approach indexer when you've lost your airspeed indicators, this technique is not usually practiced. Quick, calm assessment of the situation and readjusting their scan worked for this crew.—Ed.*



# POP-UPS

- **Maintenance Tech Libraries Going Paperless**
- **CamelBaks Combat Heat**
- **Better BASH Program Arrives**
- **A Litter Problem**

# ALL Alling

## **Maintenance Tech Libraries Going Paperless**

Maintenance on Seahawk helicopters (SH-60B/F and HH-60H) has moved into the computer age. An Interactive Electronic Technical Manuals System (IETMS), developed by Sikorsky Corporation, containing more than 15,000 pages of maintenance, testing, troubleshooting and parts information, is being used by the HS and HSL communities.

IETMS information is loaded on a single, hand-held device that resembles the display screen of a laptop computer. With the touch of the pen-shaped mouse on the touch screen, users can access information from more than 100 printed manuals and search electronically for specific data.

Two hours of training are required before using the equipment, covering basic operation and computer commands. NAMTRADET will handle future training requirements.

## **CamelBaks Combat Heat in Arabian Gulf**

Heat stress in the Arabian Gulf can be a king-sized problem, but a unique piece of equipment is making life more livable there. It's the CamelBak, a cross between a large canteen and a backpack.

After filling a CamelBak with ice and water or just water from a cooler, the wearer has hours of hands-free water to drink and prevent dehydration.

The device has a flexible tube extending from the water bladder with a nipple on the end for sucking water. The bladder fits inside an insulated carrier with straps on both sides so it can be worn like a backpack. The drinking tube drapes over the shoulder.

"To ensure that each CamelBak is FOD-free and safe to use, three things have to be done before it is distributed," says Ltjg. Kevin M. Quarderer, GSO of VS-35, who served in the Arabian Gulf. "We secured the nipple onto the drinking tube, sewed the adjustable backpack straps secure, and stenciled the user's name and squadron onto the CamelBak."







"Our wing bought 1,500 of them. The only real problem with CamelBaks was keeping them in stock."

### Better BASH Program Arrives

The Bird Aircraft Strike Hazard (BASH) program improved this summer with the release of a new bird-avoidance model (BAM).

The new BAM, which will initially be available on the Air Force Safety Center's web site, reflects the dramatic increase in the waterfowl population and includes data on more than 50 species considered the most hazardous to military flight operations.

It has color-coded maps and data sets of such items as migratory routes and bird strikes by location.

The data shows a single relative risk, based on bird weight, for each kilometer of the country for 26 periods of the year and four daily time periods. This presentation permits aircrews to choose flight routes that minimize the potential for bird strikes.

For more information, call Lt. Jimmy McLaughlin, head of the Air Operations Branch, Naval Safety Center, (757) 444-3520, Ext. 7281 (DSN 564), email: [jmclaugh@safecen.navy.mil](mailto:jmclaugh@safecen.navy.mil).

### A Litter Problem

In a recent hazrep, a search-and-rescue squadron reported that they lacked the right restraining straps to secure SAR litters to the helicopter-cabin deck. HSLWINGPAC then learned that no squadrons had enough litter-strap assemblies for all of their helos.

The straps were available through the supply system, but there was no way to track deficiencies. Proper tracking will go a long way in correcting the hazard, officials indicated, and eliminate the risk of losing a life because of lack of equipment.

Edited by Bud Baer. Contributors can contact him at (757) 444-3520, Ext. 7246 (DSN 564).

## Milestones

Class A mishap-free flight hours

Command	Date	Hours	Years
VAQ-129	01/28/98	40,000	5
VFA-113	05/12/98	10,450	24
HSL-46	05/21/98	10,000	1
VFA-195	06/03/98	66,200	16
VP-1	06/16/98	95,000	15
VAQ-141	06/29/98	8,000	4
VPU-2	06/30/98	39,530	16
VAQ-132	07/05/98	46,750	28
VFA-147	07/10/98	32,000	7
VQ-1	06/26/98	67,400	11
VFA-83	04/28/98	15,000	4

## Class A Mishaps

The Navy and Marine Corps had 18 Class A flight and flight-related mishaps before 30 April in FY98. The following mishaps occurred since 30 April:

Aircraft	Date	Command	Fatalities
F-14B	05/21/98	VF-102	0
A Tomcat crashed into the woods near Cherry Point; crew ejected safely.			
FA-18C	05/27/98	VFA-37	1
A Hornet crashed during a close-air-support sortie at night.			
SH-60F	05/28/98	HS-7	1
A Seahawk lost tail-rotor authority, waved off a mountain-landing zone, then crashed into the ground and burned.			
FA-18C	05/28/98	VMFA-232	0
A Hornet made an arrested landing because of an in-flight fire.			
T-34C (2)	06/11/98	VT-2	2
Two Mentors collided over the Atlantic Ocean. One crashed into the water, the other landed wheels-up.			
F-14A	07/06/98	NAVSTKWARCEN	0
A Tomcat departed controlled flight during an ACM sortie; the aircrew ejected safely.			

## Class A Flight Mishap Rate

	FY98* thru 7/15/98	FY97 thru 7/15/97
	No. Rate	No. Rate
Navy/Marine	24 2.09	20 1.67
All Navy	17 1.95	11 1.20
All Marine	7 2.55	9 3.15
NAVAIRLANT	5 2.09	4 1.63
NAVAIRPAC	5 2.01	3 1.15
MARFORLANT	3 3.43	3 3.21
MARFORPAC	4 3.00	6 4.42
NATRACOM	4 1.54	4 1.43
NAVAIRES	0 0.00	0 0.00
4th MAW	0 0.00	0 0.00
NAVAIRSYSCOM	2 8.57	0 0.00
NAVSTKWARCEN	1 14.52	0 0.00

\*FY98 data subject to change.



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for self-medication

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# LESSONS LEARNED

There are two ways to get smart. One is through experience—we call this “the hard way.” The other is to learn through others’ experiences. The second method is much easier on our machines and bodies.

## Spinning Helo Kills a Sailor

by Maj. Matt Brackmann

**D**URING AN ENGINE OFFLOAD from a Super Stallion, the helo suddenly began to spin left, pivoting about its left main landing gear. The brakes on the left gear then released, allowing the wheels to roll backward and accelerating the spin rate.

At first, the pilot-at-the-controls (the copilot) didn’t apply the brakes. The helicopter aircraft commander (HAC) had been resetting the brakes every time they had slipped off.

When the copilot eventually stepped on the brakes, the right brake laid out flat because of excessive loss of hydraulic fluid from the right main landing gear brake. Perceiving that his right pedal was forward of the left, the copilot added left pedal, increasing the pitch on the tail-rotor blades and the spin rate of the aircraft.

The engine in the canister to be offloaded flew off the helo, struck the crew chief, and killed him.

After the helicopter had spun more than 360 degrees, the HAC took the controls and tried unsuccessfully to stop the spin with opposite pedal. He then re-applied left pedal to keep the aircraft upright and away from the other aircraft on the crowded parking apron. After 15 to 20 seconds and more than five revolutions, the Super Stallion finally came to rest with the shutdown of all three engines.

A hydraulic leak coming from the right main landing gear brakes had been identified earlier in the flight by an aircrewman but not reported to the pilots. While loading the engine canister at the pickup site using the centerline winch, crew members saw the parking brake release twice as a result of surges in the hydraulic line that was common to the winch and the brakes. The pilots or the aircrew should have demanded the use of chocks at the offload site. Chocks were not used.

When the parking brakes released during the offload, the brakes on the right main landing gear released before the left ones because of the ongoing loss of hydraulic fluid. This situation, combined with the fact that the pilot had inadvertently applied forward cyclic, caused the aircraft to begin spinning to the left.

H-53 NATOPS manuals do not address the possibility of ground spins since such an incident apparently hadn’t been reported. Later the crew learned that other H-53 pilots had experienced several similar incidents. Had they been reported, emergency procedures may have been put in NATOPS that could have prevented this fatal mishap. The community’s failure in hazard reporting was cited as a contributory factor in this mishap.

### Lessons Learned:

- Hazard reporting: There will be instances when it seems impossible to figure out what caused a hazardous incident. The absence of a why or a fix is no reason to withhold submission of a report. The worst hazard report is the one that never got sent.
- Crew-resource management: Communication continues to be the key to safe operations. The informed aircraft commander is far more likely to make decisions that lead to success on the battlefield than one left in the blind. This includes thorough briefs and debriefs for all aircrew.
- Risk management: It doesn’t stop with the publishing of the warning order or flight schedule! That five-step process is just as applicable to an aircraft system failure as it is to planning a deployment or exercise, particularly when that system failure is not one covered by NATOPS.
- Aircraft chocks: For transport helicopters, it’s a good rule of thumb that any time the crew door goes down, the chocks go in.

Maj. Brackmann is the H-53 analyst in the Aircraft Operations Division, Naval Safety Center.

by Lt. Rick Hughes

I WAS A BRAND NEW H2P, deployed for the first time in an FFG. We were off the coast of San Diego, doing battle-group workups, flying a typical night LAMPS mission with a sliver of a moon. I was copilot with the det maintenance officer for an uneventful 2200-0200 flight. We had hot-switched with another crew. The mission was SSC. I was the airborne tactical officer (ATO); the sensor operator (SENSO) worked the radar and called contacts down the hawklink.

Next, the ship's antisubmarine tactical controller (ASTAC) called, "Hey, sir, did you load any sonobuoys?"

Three gators were to enter the area off the coast, then disembark a SEAL team for insertion into "Orange" territory. We were to sanitize the area, using radar and passive acoustics, trying to discover any "enemy" subs lurking in the area. We switched gears and went into ASW mode. We laid a sonobuoy pattern, and the gators came in.

Once again, the hawklink came to life as the ASTAC relayed to us that the tactical action officer (TAO) wanted us to circle one of the amphib, and watch for the SEAL insertion to begin. We moved in close, and our crewman began scanning the area with NVGs, looking for a rubber boat full of gung-ho warriors.

The ASTAC had been providing occasional air-traffic calls throughout the night, mostly high flyers from the carrier, but now he gave us something to worry about: "Sir, traffic on your one-twenty, five miles, your altitude, heading northwest." The entire aircrew immediately began to look outside for the traffic but saw none.

"Give us a vector to get clear of this guy," the HAC directed the ASTAC. "Come right to two-three-five, sir." I began to edge the aircraft to the right, but turning away from the traffic made me nervous, and I kept craning my head to the left, trying to spot the other aircraft.

"One mile, sir," the ASTAC warned.

I'd like to say it was my keen eyes that saw the H-46 at half a mile, but in reality, he turned on his position lights. I came hard left toward the H-46, using the lighted horizon of the coastline as my attitude indicator, not realizing that I was approaching 60 degrees angle of bank until the HAC courteously brought it to my attention. He started to ask what the heck I was doing until he caught sight of our uninvited, undesired

# Someone Turn on the Lights!

I'd like to say it was my keen eyes that saw the H-46 at half a mile, but in reality, he turned on his position lights.

playmate. At this point, the ASTAC chimed in with the ever-helpful "We're breaking his IFF now, sir. He's a Navy helo."

As if this encounter wasn't enough, the H-46 kept buzzing around the same chunk of airspace we were trying to occupy. Somewhat belatedly, we climbed up to about 1,000 feet, giving us some altitude separation. When he landed on one of the amphib's, it occurred to us that maybe we were more in his way than he'd been in ours. We made a call on fleet TAC to get the amphib's land launch, dialed in the frequency, and finally said hello to the crew of the other bird as she sat on deck. They had been flying on goggles, turning on their lights when they saw us trying to run them over. After a while, they darkened the deck and took off, on NVGs once again, and departed.


We learned a couple of lessons. First, always know whose airspace you are in and talk (or at least listen) to them if possible. None of the amphib's had embarked helos, but they all had flight decks. We had a radio open to tune up their frequency, but didn't do it until after the fact.

Second, keep yourself briefed.

On deck we had conducted a thorough brief with combat for a night SSC mission. When the ASW mission popped up, we got an abbreviated brief over the hawklink.

More prompting on our part might have gotten useful information, such as the fact that a scheduled flight was in-bound. Actually our FFG never really established comms with the gator, and didn't know their land-launch frequency, another item a brief might have addressed.

Third, extra caution is always in order when dealing with a crew flying on goggles; altitude separation is a must. Later on in the exercise, we spent a lot of time in the ARG's airspace, and the caution we learned in this episode served us well. With Marine helos, if you see one, keep looking because there are probably two or three others in the formation.

If you haven't ever experienced the thrill of not seeing another aircraft until it turns on its lights a mere mile or two away from you, I don't recommend it. Good crew coordination turned this episode into a minor scare. A little more foresight might have kept it from happening at all. 

Lt. Hughes flies with HSL-37.

Composition by Laurinda Minke





# A Bunch of

As we flew toward the op area, we found that to get to our desired entry point, we were going to have to penetrate some ominous weather.







# Non-Hackers?

by Cdr. John G. Mahoney, USN (Ret.)

**T**URN AROUND? WHAT FOR? I couldn't believe what I was hearing. I knew we could make it. That's the way it was one miserable, stormy day over the Pacific Ocean en route to an ASW op area.

Anyone who has deployed to Adak knows that when there's a chance to leave the island, you grab it. As a new department head who just happened to be hanging around the operations office, I couldn't help overhearing our sister squadron to the west ask if we wanted to get involved in an ongoing ASW prosecution. Yes! A chance to get off the rock and do what the P-3 was designed to do. Now I had to convince the Ops O to send our crew. It seemed logical because we were on the Ready Two Alert, and because it was not an immediate launch, we could easily move Ready Three to Alert Two status to support any contingencies. The Ops O agreed.

Our mission was simple: two days of ASW sandwiched around a night in Misawa. RON and conduct another ASW mission as we headed back to Adak. The other crew members were ecstatic.

The first half of our adventure went well, and we landed in Misawa with an "up" bird. After the debrief, we did what most flight crews normally do after a long flight—race out to tour the museums and libraries.

The next day's preflight and launch back to Adak was uneventful. The brief indicated we would probably encounter a large band of thunderstorms just south of our working area but didn't describe the severity of the storms.

Having had the pleasure of penetrating several severe fronts over the years in the P-3, I gave little thought to the weather. Besides, it was an all-weather aircraft. Once over the Atlantic, our pilot ignored the radar operator's (SS-3) recommended penetration heading and, while trying to set condition five, I was tossed against the overhead then slammed to the deck.

As we flew toward the op area, we found that to get to our desired entry point, we were going to have to penetrate some ominous weather. The front seemed to stretch forever from west to east. Instead of bolting right through, we orbited and discussed our options. We were about two hours out of Misawa and about an hour away from our entry point. We already had ice on our wings.

The SS-3, who was very experienced and quite confident in the APS-115 radar, even though it is not designed for weather, was sure we would find a way though the muck. Looking at the radarscope and discussing his proposed route, I agreed. However, I knew it was going to be rough. I passed our recommendation to the plane commander (PPC), who was also the mission commander, and told him we'd batten down the tube. My recommendation to proceed to the op area was based on my high regard for the P-3's toughness, my SS-3's experience, and my experience with judging weather on the APS-115. He had provided the penetration heading, but the PPC did not feel real comfortable with our assessment.

While he mulled over our suggestion, I tried contacting the on-station aircraft without success. After orbiting for nearly 45 minutes, the PPC decided to abort the mission and head back to Misawa. He believed there was no way to safely penetrate the storm between us and the op area. We didn't have enough fuel to fly around this monster of a front and make it to Adak with the required on-top fuel.

I did not agree with the PPC's decision. However, I contacted ASWOC Misawa and relayed our intentions. Meanwhile, the rest of the crew prepared for our landing in Misawa.

After our arrival, I was met at the bottom of the ladder by the hosting squadron's operations officer who asked, "What happened?"

Stoically, I replied, "We aborted because of weather."

We were then joined by the squadron's commanding officer and he, too, wondered what the problem was. While the PPC was trying to convince them he made the right decision, I called our squadron and passed the word. The Ops O had little to say except, "We'll talk about it when you get back." We all know what that means.

Meanwhile, another P-3 crew was getting ready to launch on the same mission we had just aborted. We finally returned to Adak the next day and gave the skipper and Ops O a full rundown. The skipper fully supported the PPC's decision.

I had mixed emotions about the way this event turned out. Sure, the airplane and crew were ready to fly another day, and you could justify the plane commander's decision based

We didn't have enough fuel to fly around this monster of a front and make it to Adak with the required on-top fuel.


on safety of flight. However, I strongly believed, as did the SS-3, that we could have made it through the weather. No one questioned the plane commander's decision during the debrief, but you could sense there were those who believed the visiting crew from Adak were a bunch of non-hackers.

To reinforce their perception, one of their squadron planes we were to pass en route to the op area returned before we finished our debrief.

Word received from them

was that the flight through the weather was challenging but not life-threatening.

From the perspective of risk management, we certainly could have been better prepared mentally for the encounter. We were briefed about the weather, but none of us seemed to give it much concern. Had we discussed the weather and what kind of weather criteria constitutes an abort, we might have better understood the PPC's reasoning. (I didn't know it at the time, but according to some of the other crew members, the most likely reason the PPC did not want to penetrate the front was because he'd had a bad experience with another menacing storm.)

I know other aircrews have had experiences like this one. The real issue here is not whether you agree with my PPC (to abort) or me (to press on); it's that regardless of differing opinions, the ultimate decision lies with the plane commander. A few egos may have been bruised—including mine—but we were able to regroup, discuss a few things, and fly another day. 

Cdr. Mahoney is a retired P-3 TACCO and mission commander. He is now the head of the Media and Education Department of the Naval Safety Center.



# Creatures of Habit

by Lt. Stephan D. Dupourque

IT WAS TIME FOR THE CO-FLY-ON and another six weeks of workups. We had already spent four weeks on the boat during two previous at-sea periods, but this one was special. We'd make port visits in Hong Kong and Pattaya Beach, Thailand.

Our air wing was located in Atsugi, Japan. Working with Japanese controllers was sometimes difficult when we were trying to launch more than 60 airplanes on time. Anticipating delays, our crew walked earlier than usual. We got the APU running and called for clearance for our flight of two, squeezing in the request among 10 other jets.

We got both engines running and finished our plane-captain checks. Everything had gone like clockwork, and we were ahead of schedule. All we had to do now was wait for clearance and our playmate.

Finally, he reported up and ready. But after we had waited for 20 minutes for our wingman, our jet started having problems. The right-hand generator kicked off line and would only reset temporarily. We taxied back from marshal to get the generator fixed. This is when our crew coordination began to take a turn for the worse.

It started with small items. First, we forgot to start the APU before shutting down the No. 2 engine.


Then, when we tried to restart No. 2, the starter kicked off, and we couldn't get a good start. The ITT spiked as the RPM decayed, so we brought troubleshooters in to assess the problem. We eventually noticed that we had not pushed the fire pull-handle forward. Even if the starter had cooperated, the engine would not have lit off.

Lastly, after a good start, the generator still kept kicking off-line. Again, we shut down and let the troubleshooters inside a second time. I then noticed something else we had forgotten: we hadn't safed the ejection seats. We had let troubleshooters into our jet twice before realizing that the seats weren't de-armed. Our lack of attention was incredible.

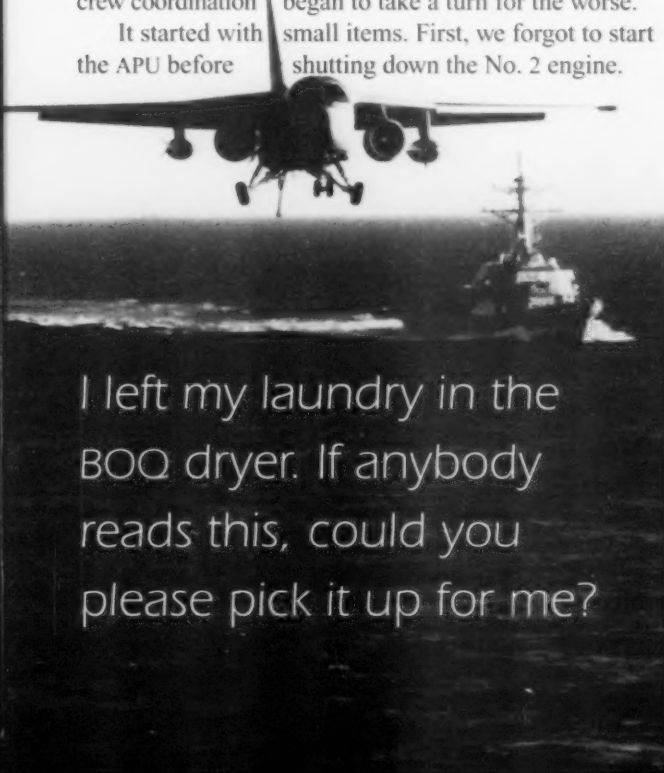
Since the last at-sea period, the squadron had been busy preparing for our change of command. Flying became the low priority, and crews were only barely maintaining currency requirements. We knew we would be rusty, so our brief was more detailed than normal.

After an uneventful start-up, things had gone as planned. It seemed like we hadn't lost a step. But as soon as our normal routine had been interrupted, our lack of proficiency began to show, and crew coordination had deteriorated.

When we had to stray from our game plan, it became readily apparent that we were relying on memory instead of checklists. Our day had gone fine until we had to start doing things out of order. Our crew of four, with a lot of flying experience, had dropped a very basic safety item from our scan.

The rest of the day was uneventful—if 50-knot winds at the boat can be called uneventful. There were no more embarrassing incidents, which we credited to the fact that nothing out of the ordinary happened. Night CQ was canceled because of the winds, so we stayed on the boat instead of going home as originally planned. Oh yeah, there was another checklist I forgot: the "leaving home for six weeks" checklist. I left my laundry in the BOQ dryer. If anybody reads this, could you please pick it up for me? 

Lt. Dupourque flies with VS-21.



I left my laundry in the BOQ dryer. If anybody reads this, could you please pick it up for me?



by LCDr. Peter McVety

#### 0200 over Bosnia, Operation Deny Flight.

**E**NGINE LEFT, ENGINE LEFT." The voice-alert system shattered an otherwise quiet CAP mission. My left engine had major compressor stalls, which subsided when I brought the throttle to idle. I now had to go back to mother on one engine. Aircraft: Lot XIV FA-18. Configuration: five pylons—2 AIM-9s, 1 AIM-7, TFLIR, ALQ-126B and three drop tanks. Squadron SOP was to select-jettison the two wing drop tanks because of fuel and waveoff considerations. At that time, max trap was 33,000 pounds.

With 4,500 pounds of gas, half flaps, gear down, I couldn't maintain 1,200 feet without afterburner. I trapped on the first pass, however. I would not have thought to go to afterburner on the bolter or waveoff. No one mentioned mandatory afterburner use. No harm, no foul, we learned from the experience.

#### 1700, a year later in the Puerto Rico op area.

**E**NGINE LEFT, ENGINE LEFT." The voice-alert system shattered the peaceful launch, 7 nm on climbout from mother. Left oil pressure decreasing through 30 psi to zero. Left engine OFF. Aircraft: Lot XVIII. Configuration: 1 CATM-9, 5 pylons, TFLIR, 2 tanks, ITER with TALD. I decided to jettison the TALD and come aboard single engine at max trap (about 4,500 pounds of gas, 33,000 pounds gross). Once again, I trapped on the first pass. This time, however, both the tower rep and paddles mentioned using afterburner on the go-around. Even with two tanks, the extra thrust of the 402s left me with plenty of

power for the approach. Again, no harm, no foul, but as I approached the ship, I wished I had taken a few extra minutes to find out what the "new" engines were going to do for me on the ball. Even with considerable single-engine time on the ball, I needed to review the single-engine characteristics before I got there.

Typically, a Hornet at the ship is configured as follows (Lots XIV-XVIII):

Lot XVIII Basic Weight (aircraft, pilot/ALQ-126B)	25,800
5 Pylons	1,380
2 Tanks	600
TFLIR	370
AIM-9	200
NFLIR/LST	215
Total	28,565

Round this number off to 28,500 for this discussion. This configuration results in a fuel weight of 5,500 pounds for a max trap weight of 34,000 pounds. For a single-engine, half-flap approach, however, 4,500 pounds gas (33,000-pound gross) is max trap (unless you have 40 knots of wind). The new NATOPS single-engine charts (Figures 1 and 2), are based on an on-speed AOA, on glide slope (3.5 or 4.0 deg), single-engine approach, with the "bad" engine seized or windmilling. The new NATOPS allows for application of military power on the good engine while maintaining on-speed AOA. This permits a single-engine waveoff under MRT and a loss of less than 50 feet of altitude, provided you are at the recommended aircraft weights for the

# Fly the Ball. Be the Ball!

given outside-air temperature. Using Figure 1, for 402 motors, the following is extrapolated:

Figure 1

**402 Motors  
Lot XVIII Aircraft  
3.5-Degree Glide Slope  
32-34 Knots of Wind**

OAT (F)	Aircraft Weight	NATOPS Recommended Max Aircraft Wt	Retain Ext. Tanks Fuel State	Jettison Ext. Tanks Fuel State
70	28,500	32,400	3.9	4.5
80	28,500	31,800	3.3	3.9
90	28,500	31,400	2.9	3.5
100	28,500	30,900	2.4	3.0

For a 4.0-degree glide slope, the recommended fuel states are too low for further discussion.

Using Figure 2, for 400 motors, Lot XIV aircraft, you can see a significant difference in recommended fuel states:

Figure 2

**400 Motors  
Lot XIV Aircraft  
3.5-Degree Glide Slope  
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The NATOPS charts depict military thrust waveoff only. Burner waveoffs are feasible and not prohibited by NATOPS. If a pilot comes aboard with more than the recommended

aircraft gross weight, he is almost forced into using CRT in the event of an untimely waveoff. The LSOs, at least in our air wing, move the waveoff window out and brief the use of afterburner. Squadron SOPs should mention the use of burner on a single-engine approach, with the reasoning behind it. Because of fuel constraints at the ship, most people in charge won't want to let the pilot of the emergency aircraft lower the aircraft's gross weight, either by blowing tanks or coming aboard with a lower than comfortable fuel state, such as bingo on the ball.

An informal poll of experienced aviators who have made single-engine approaches reveals that pilot technique for this situation is to fly a slightly fast approach, keeping additional energy on the jet. Here's a summary of options for single-engine approaches at the ship.

- Review NATOPS for single-engine procedures.
- Fly the best pass of your life.
- Fly a slightly fast approach to keep energy on the jet.
- Have paddles move the waveoff window out.
- Use afterburner on the waveoff, controlling AOA and yaw.
- Jettison tanks and ordnance to lower gross weight.
- Divert.

Be the ball! 

LCdr. McVety flies with VFA-82.



by LCdr. Peter McVety

#### 0200 over Bosnia, Operation Deny Flight.

**E**NGINE LEFT, ENGINE LEFT." The voice-alert system shattered an otherwise quiet CAP mission. My left engine had major compressor stalls, which subsided when I brought the throttle to idle. I now had to go back to mother on one engine. Aircraft: Lot XIV FA-18. Configuration: five pylons — 2 AIM-9s, 1 AIM-7, TFLIR, ALQ-126B and three drop tanks. Squadron SOP was to select-jettison the two wing drop tanks because of fuel and waveoff considerations. At that time, max trap was 33,000 pounds.

With 4,500 pounds of gas, half flaps, gear down, I couldn't maintain 1,200 feet without afterburner. I trapped on the first pass, however. I would not have thought to go to afterburner on the bolter or waveoff. No one mentioned mandatory afterburner use. No harm, no foul, we learned from the experience.

#### 1700, a year later in the Puerto Rico op area.

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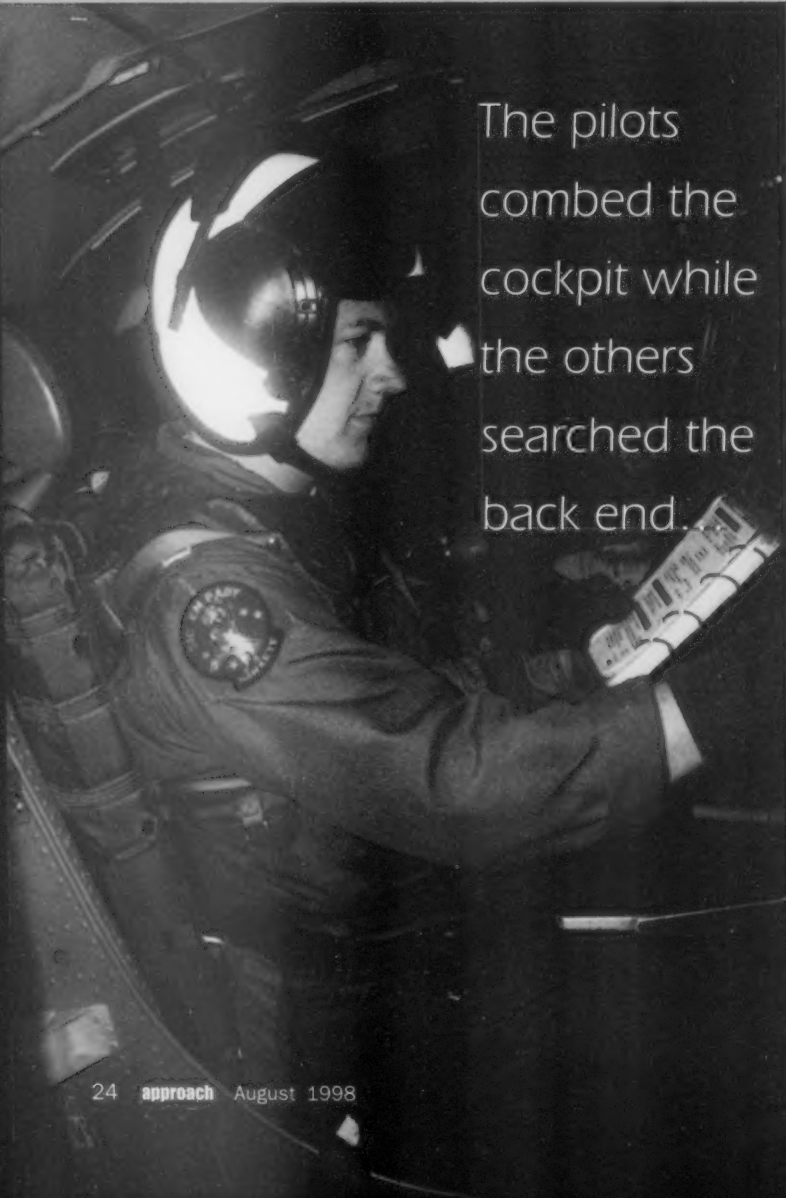
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Be the ball! 

LCdr. McVety flies with VFA-82.

We had already decided to down the aircraft and not go flying if we couldn't locate the handle.

# The Case of the Missing Pump Handle



The pilots  
combed the  
cockpit while  
the others  
searched the  
back end.

by Ltjg. Peter C. Berg

**A**S AN E-2C RADAR OPERATOR on my first Westpac deployment and no in-flight emergencies under my belt, I knew my diligence in preflighting and other duties had been paying off... or so I thought.

We manned up 601 on a standard mid-summer's night in the Gulf—90 degrees and no wind, except for what little circulation the ship provided moving through the haze. I was feeling salty, but that could have been from the little streams of sweat pouring down my face. When the senior CICO noticed a low reading on the radar liquid-coolant pump, my saltiness evaporated. We had the pump serviced, averting a problem with the radar system and an embarrassing gripe, but damn it, I had missed it!

We continued our preflight, but we almost missed something that could have cost the taxpayers a lot of money and even killed five men. We were near the end of the prestart checklist.

"External lights master switch..."

"Off."

"Hydraulic-pump handle..."

"Stowed. No, wait. It's missing!"

The hydraulic-pump handle is used to manually pressurize the accumulator for the parking-emergency brake when there's not enough pressure. It's a metal pipe, that at-

dle



taches to the pump fitting at the base of the center console and is stowed behind the copilot's seat.

The pilots looked around the cockpit, but the missing handle was nowhere to be seen. They called the back end, "CICO, flight, the hydraulic-pump handle is missing."


"Missing?"

The pilots combed the cockpit while the others searched the back end along with an entourage of QA representatives and other troubleshooters. No one found anything. The ground crew didn't know anything about it, either. We were all dumbfounded, but certain the pump handle was not in the aircraft. We had already decided to down the aircraft and not go flying if we couldn't locate the handle.

Meantime, our flight-deck coordinator called down to maintenance control and asked them to check with the work centers about the vagrant pump handle. Eventually, they asked an AEAN, who said nothing, but his face spoke volumes.

He ran up to the flight deck, entered the plane with all the grace he could muster, and went straight to the place where he had left the handle. He and another maintainer had been working on the electronics-cooling equipment and encountered a stubborn nut. They didn't have anything in their tool pouch

to use, but the pump handle would do the trick. It was also the most convenient tool at its normal perch in the cockpit, only 10 feet away. Their job complete, instead of replacing it just as they found it, as any rule-bender worth his salt would do, they placed the handle, just for a moment, amidst a maze of hydraulic and cooling lines and equipment... and forgot it. Ten people had searched the plane and could not find the handle! We stowed it in its proper position and continued the mission with no other problems.

The E-2C is cavernous, compared to most other carrier aircraft. It is filled with electronic boxes and weird equipment you'd expect to find in a meat-packing plant. There's even a door separating the back end from the cockpit. Little bits of FOD are always appearing, and the never-ending de-FODings don't seem worth the hassle. But the fact is, a tiny bit of FOD takes on a whole new importance when it's jammed in your flight controls. It can damage costly electronic equipment or even worse, the aircrew. A two-foot piece of steel becomes a missile during catapult shots and arrested landings, severing fuel lines, hydraulic flight control lines, or even human heads. 

Ltjg. Berg flies with VAW-113.

# A Tinker Burger au Goodyear

by Lt. Ray O'Hare

WE WERE READY FOR OUR GAGGLE TRAINING flight from NAS Oceana to NAS North Island to begin COMPUTEX/ITA and our squadron change of command in beautiful San Diego. (Guido had reserved a table for us at Johnny Love's for a squadron AOM that night.) The plan was to launch seven Tomcats and head west with en-route tanking on two KC-10s over Oklahoma. If there were problems with the tanking, several divers were available with PPRs as required. Of course, Tinker AFB outside Oklahoma City was a prime spot for a quick gas-and-go.

Strobes and I were the lead of the three-plane that was to launch 20 minutes in trail of the lead division. However, our jet went down just before man-up. Maintenance told us it was a "comer," so as all the other jets launched, we began our wait. It was 0800 on a Wednesday.

Several fixes, phone calls and hours later, our F-14 was ready to launch. The only gripe was a marginal HUD. We could "repeat" the HUD on an MFD, but we preferred to minimize night flying with this degrade.

By now it was 1600 and en-route tanking was no longer an option. We refilled and planned to stop at Tinker for a quick turnaround. The flight to Oklahoma was uneventful, other than a 100-knot headwind above FL200.

We landed, handed over our gas card, and headed for a bite to eat. It was 1815 local, and we wanted to be back in the air ASAP to use as much daylight as possible. Then our decision matrix failed us. Earlier that day, a nugget just out of the FRS had asked us, "Hey, if you guys stop at Tinker, are you going to get a Tinker burger?"

Having some experience with the lore of the Tinker flight-line cafe, we quickly replied, "Are you kidding? If you stop at Tinker you *always* get a Tinker burger."

Now, though, we were pressed for time and decided to settle for a hot dog and some nourishment from a gedunk machine. We laughed about being at Tinker and breaking tradition, but we wanted to get to San Diego. We specifically did an extra-thorough preflight trying to avoid rushing because of our situation.

During startup and taxi, everything was normal, except of course, the HUD. Tower cleared us for takeoff as we took the runway. It was 1930. Runup and wipeout were normal, and we began our roll. I called, "Off the peg," and Strobes soon followed with, "Good engines, good hydraulics."

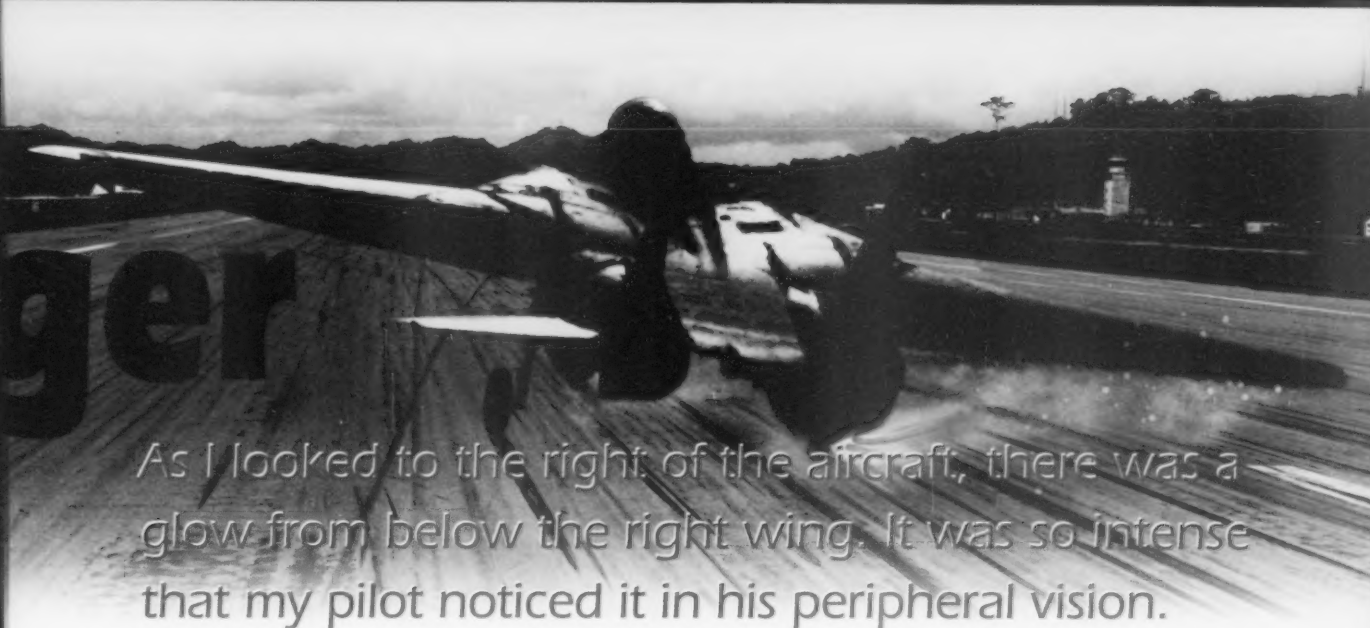
We accelerated through 100 knots and confirmed nosewheel steering was deselected. At 120 knots, as Strobes began pulling the stick back, the aircraft pulled violently to the right. Almost simultaneously, we called out on the ICS, "Blown tire," and Strobes fed in full, left rudder as I called, "Abort."

As we slowed, I called tower that we were aborting. We went into the boldface for "blown-tire on takeoff, take-off aborted." The first step is "Nosewheel steering—engage." Strobes had a bootfull of left rudder in and wisely eased the rudder throw to avoid a violent left turn as he activated NWS.

As I looked to the right of the aircraft, there was a glow from below the right wing. It was so intense that my pilot noticed it in his peripheral vision.

"Are we on fire?" he asked, a reasonable inquiry, considering the intensity and duration of the light. I responded that I did not think so, but I still could not tell. Then, I looked back and saw an incredible stream of sparks spitting aft from below the starboard flap. When I saw the sparks instead of flames, I felt somewhat reassured that we were not on fire.





ger

As I looked to the right of the aircraft, there was a glow from below the right wing. It was so intense that my pilot noticed it in his peripheral vision.

As my pilot was doing a good job keeping the plane on the runway and slowing us down, tower told us that they thought we blew an engine and were possibly on fire. Another ground observer then reported we had a collapsed mainmount. We now thought about the possibility of hydraulic fluid from the brake lines and fuel from our starboard auxiliary tank catching fire.

As we slowed below about 80 knots, I was sure we were not on fire. We slowed to a rough stop about 2,500 feet down the runway, just right of centerline.

We shut down, popped the canopy, and lowered the boarding ladder ourselves as the crash crew came racing after us. By the time we were on the ground, the jet was listing about 10 degrees, right wing down. The tip of the right wing was at chest level, while the tip of the left wing was more than 11 feet off the ground.

We walked around to the right side cautiously, still concerned that leaking hydraulic fluid or fuel would catch fire from the residual heat. The sight of the damaged wheel and landing gear was sobering for both of us. The starboard auxiliary fuel tank was barely two inches off the ground, and hydraulic fluid from the brake lines was draining rapidly onto the runway. The starboard wheel was ground all the way to the axle. We were lucky the gear had not collapsed. Later, inspection found rubber all over the runway from about 800 feet until our stopping point. Apparently, the tire began shredding after about 700 feet of our takeoff roll but didn't affect us until just before takeoff. Another two seconds and we would have been airborne.

We were a little surprised at how quickly we analyzed the situation and did the boldface procedures. No


doubt, having flown together often and having a solid ACT background were instrumental.

Now, the problem was getting the jet off the runway. Because the wheel was now barely a half-circle, a normal wheel dolly would not work. Two Navy squadrons, VQ-3 and VQ-4, stationed at Tinker, were helpful but we could not get any jacks to lift the jet.

After several phone calls back home and a little negotiation with the crash crew, we used three 12-ton inflatable mattresses to lift the aircraft just enough to get a wheel dolly under the axle without damaging the aircraft. We put two mattresses under the belly, which did not have any weapons rails installed. The third mattress went under the right wing as a backup. Because of our concern about damaging the wing, we made sure that this mattress didn't carry a load.

The crash crew finally towed the aircraft off the runway at 0200. A NOTAM closed the airfield until 0700. The airfield administrators said they could not remember the last time a mishap shut down the runway for so long.

After some great help from VQ-3 and VQ-4 and the Tinker transient-line personnel, we finally departed for San Diego Friday morning. We made the change of command with five minutes to spare.

Although a blown tire is not the gravest of emergencies, the frequency with which they have occurred in the Tomcat community bears extra review by all F-14 aircrew. The reliability of retreads requires additional investigation as well. 

Lt. O'Hare was a RIO with VF-2 at the time of this incident. He is now a student at the Naval Postgraduate School.



Petty Officer Zawolik was still on the stack! As I watched, he fell to the catwalk. I thought he had passed out. I knew that the situation was bad and getting worse by the second. We were going to have to fly into the smoke during the entire approach and hover, then hoist the stranded aircrewman.

I rolled into a 45-degree turn and called for the rescue checks. In the time it took us to do this task, we were on final and in the smoke. The only thing I could use to gauge my approach was the AW's white helmet. Our crewman couldn't see through the smoke as I continued to the spot. I noticed movement; he was conscious!

He pointed to my right, indicating where the platform was. I could barely make out the area because it was covered with smoke. My crewman said he couldn't see Zawolik, but I could as I kept sliding right. I asked Lt. Gordon to keep an eye on No. 2's TGT, and he replied that two was OK, but the No. 1 engine TGT was climbing. In fact, No. 1's TGT was about 40 degrees hotter throughout the flight, and now it was about to lead to our undoing.

I continued right. As we slid closer to the platform, we were engulfed in the smoke and fumes. The heat was nearly unbearable. The force of the smoke and heat were driving us to the left as I compensated with almost full, right cyclic.

Finally, I heard the crewman call he could see the man on the tower.

"I've got him! Keep coming right!" That's when I lost him. The only thing I had for a reference for hovering was the front lip of the stack. The higher we went, the less we could see, and all hover references would be lost, so I lowered the aircraft to a two-to-three foot hover. I reverted to a "deck scan" and tried to hold steady. The hoist operator continued to call, "Easy right."

I continued right until we had the nose of the aircraft over the stack. I kicked the nose to the left to keep it out of the heat. Finally, we were over the spot. We lowered AW2 Kazmerchak to the platform. The gusts from the stack were incredible. The rotor disk was directly over the stack. At one point, I actually hit the right stop with the cyclic.

My copilot called, "Steady, steady... He's hit the rail, he's hit the rail! He's on deck!" The copilot continued calling out the TGT on No. 1, which was 850 degrees.

Now I thought, TGT is 850, we have a man on the platform trying to help the crewman from 407, and

we're hovering without a reference at 670 feet. I said earlier that I'm glad that's not us, but here we are.

I said the obvious, "Number one hasn't got much time!"

The reply was not what I wanted to hear. They were having a tough time. The smoke was horrendous, and, of course, the TGT continued rising and was now at 870 degrees.

"We've got to go now," I thought. "We're not going to be much help if we crash."


The crewmen reported that they were hooked up and clear of the deck, and that I was cleared to slide left. I chose not to slide until they were safe on board. I didn't want to take the chance that after the slide left we would lose one or both of the guys on the hook from 670 feet. Now it was crunch time.

I kept repeating to myself over and over, "Aviate, aviate." TGT continued to climb and was now 890.

"They're on board, they're on board!" my remaining crewman called. With those glorious words, I departed the hover. I lowered the nose, anticipating the coming failure of No. 1. But to our surprise and relief, TGT began dropping as soon as we were out of the smoke. I began breathing again. We were flying! Time to navigate and communicate.

I climbed to 2,000 feet and radioed to a worried crowd back at the squadron that 407 had had a single engine failure but was on deck and everyone was safe. We set up for landing to get help for AW1 Zawolik. My crewmen helped him to the waiting ambulance, where he was treated for smoke inhalation and first-degree burns to his legs. I decided to keep the aircraft turning in case any immediate evacuations were necessary.

As I sat alone in the aircraft, I watched the pilot and copilot from 407 get out. High fives all around. Sitting in the aircraft, I looked at the top of the stack towering over me, thick black smoke billowing from the opening.

Maintain good crew coordination, have a plan, then do it. We had all the footwork done before we ever launched. The CO and XO choreographed a flawless plan, and we used it. Unfortunately, it doesn't always go as planned. Situational awareness, communication and decision making are ACT watchwords that saved our lives. We briefed the flight and adapted to the changing conditions. Can we train for every contingency? No, but we can do our best to be ready. 

home, and asked that our home base be told (over the land line) about our gear problems. He also said we wouldn't need any special handling until we arrived at the field. In sight of home, we canceled, went VFR and started talking to base. The skipper was there by this time and wanted to know the situation. My pilot responded that the gear had inadvertently come down. The confusion developing on the other side of the headset was staying pretty thick and oozy.

Well, where is the gear handle? Down. How did it get there? It inadvertently lowered. By itself? Well, it took most of the 50 miles at 200 knots to get a working version of the story out of the instructor. Soon we were descending and applying positive and negative G's, trying to save the nose. By that time, base had a fair idea of the picture and what we needed. An LSO was sent out to the shack to check our still unsafe nosegear. A low flyby showed that the nose strut was trailing back about 45 degrees, only halfway down.

The first drastic step was cycling the gear, which I was against, on the principle that the right main had taken a long time coming down. With my opinion voiced and ignored, the pilot raised the handle, but only the left main moved. The indicator showed all three different types of indications at the same time: left up, nose unsafe, right down. He lowered the handle again, and after a seemingly long wait, both mains were once again under us.

Another flyby showed no change in the nosegear's position. A couple of touch-and-goes didn't help. The skipper made the call: we weren't going anywhere else, anyway, so we activated the emergency gear-extension nitrogen bottles. No effect. I extended the auxiliary hydraulic hand-pump between the seats and started pumping.

I more than doubled the suggested 30 pumps to no avail. With little gas and fewer options, we lowered the hook. The instructor reassured me he was going to hold the nose off until we caught a wire, which would certainly bring it down, crushing the million-dollar chin turret.


As we came through the 45, I had a large, inexplicable smile beneath my oxygen mask and commented over the ICS, "You know, I've got a good feeling about this."

He swallowed a few choice expletives and concentrated on the pass. At

the in-close position, I focused on the gear indicator and the rapidly approaching wire. We touched down nose high and, like the previous touch-and-goes, there was no effect on the nosegear. In my peripheral vision, I saw the arresting gear paying out. Just as we started that rapid deceleration and the nose came through the horizon, the center indicator suddenly flashed safe. The nose fell no lower, and we stopped in short order, the engines already spooling down from the instructor's rapid act of shutting them off as we caught the wire. The nosegear had been thrown forward and locked down with the transverse G's. We sat there for a second, I whooping in my mask, he looking around, thinking that the plane didn't seem to be in a strange attitude. I told him in my best caveman sign language that I'd seen three down-and-locked just before the generators fell off-line and caused the three unsafe indications.

The fire trucks and spectator vehicles rolled around us. The occupants walked leisurely to the airplane and opened the canopy. Still wearing a big smile, I took off my mask and climbed from the airplane. The base commander was at the bottom of the ladder and must have known that this was my first flight because he put his hand on my shoulder and, with a grin, said, "They're not all like this."

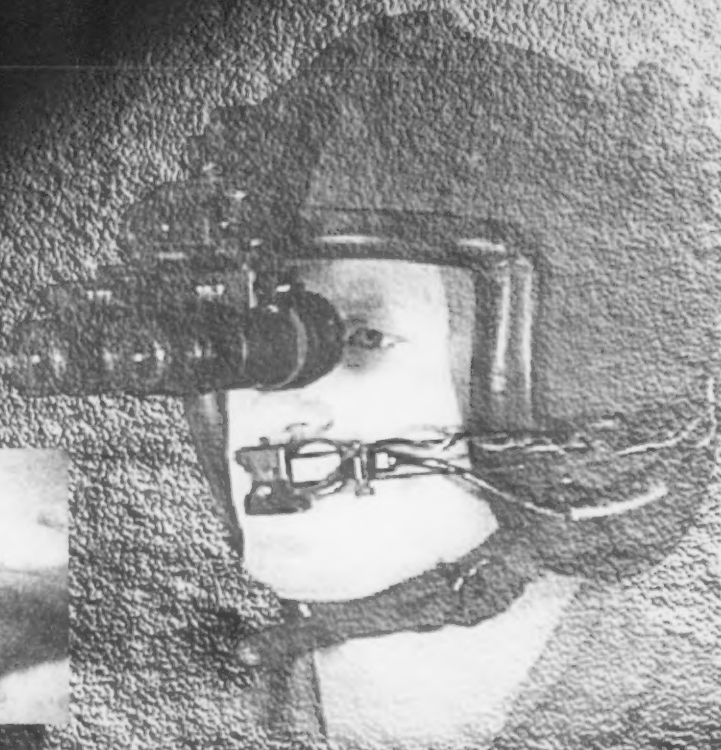
Maintenance discovered a couple of sheared linkages, but no bent doors or appreciable damage. Lessons learned? We weren't very clear when we summed up our predicament. The instructor seemed to be trying to defend his actions before even stating them. Excuses don't belong in the air. Explain events in the debrief. It was only when we felt committed to stopping on the nose that the gear came down. But it might have turned out differently if we had had less gas or the weather had been marginal.

Did the pilot need his nav bag up there? Probably not, but, as he explained later, he'd flown into combat like that. And did it come back and bite him in the nether regions? Yes, it did. He later asked several other instructors where they keep their nav bags and several replied, "Back in the nav-bag hole... now." 

Lt. Hibbetts flew with VA-165. He now flies Hornets with VFA-105.

A low flyby showed that the nose strut was trailing back about 45 degrees,





*NVGs  
require  
constant  
teamwork  
and ACT*



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